

CLAIMS

2. The peptide of claim 1 which does not comprise glutamic amino acid.

4. The peptide of any one of claims 1 to 3, which comprises the amino acid sequence SEQ ID NO:1, wherein each Xaa is selected independently of one another from the group consisting of lysine (Lys or K), histidine (His or H) and arginine (Arg or R) residues.

6. A complex for transferring an anionic substance of interest into a cell comprising:

(ii) at least one anionic substance of interest.

30 (iii) at least one ligand capable of cell-specific and/or nuclear targeting ; and/or

(iv) at least one further peptide which is capable of causing membrane disruption ;
and/or

SUB
25
B5

(v) at least one cationic compound selected from the group consisting of cationic lipids and cationic polymers ; and/or

(vi) at least one colipid.

SUB
B3

Sub
B4

UB
B¹⁵

SUB
B²⁵6

8. The complex of claims 6 or 7, wherein said anionic substance of interest is a nucleic acid.
9. The complex of claim 8, wherein said nucleic acid comprises at least one therapeutically useful gene sequence and elements enabling its expression.
10. The complex of any one of claims 6 to 9, wherein the size of said complex is less than 500 nm.
11. The complex of claim 10, wherein said size is between 20 and 100 nm.
12. The complex of any one of claims 6 to 11, wherein the ratio within said complex between the number of positive charges and the number of negative charges is between 0.05 and 20.
13. The complex of claim 12, wherein said ratio is up to 1.
14. A composition comprising the complex of any one of claims 6 to 13.
15. Use of the complex of any one of claims 6 to 13 for the preparation of a pharmaceutical composition for curative, preventive or vaccine treatment of mammals.
16. Use of a peptide of any one of claims 1 to 5 for the preparation of a complex for transferring an anionic substance of interest into a cell.